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A PRACTICAL PLAN FOR THE TREATMENT OF SUPERFICIAL FUNGUS INFECTIONS¹

By SAMUEL M. PECK, *Surgeon (R)*, and LOUIS SCHWARTZ, *Medical Director*,
United States Public Health Service

Superficial fungus infections can be divided roughly into those of the glabrous skin, those affecting hair or hairy regions, and those involving the nails. Actual fungus infections are to be differentiated from the so-called secondary or allergic manifestations to them.

The dermatophytes live on keratin tissue, on the dead layers of the skin. Under certain circumstances they come in contact with the living structures, and the infected organism, human or animal, may become sensitized to the fungi or their products. Experimental dissemination of these products through the blood stream has given rise to manifestations which are known as dermatophytids. The living fungi themselves may enter the blood stream and cause similar lesions. An acquaintance with the clinical manifestations, and perhaps a dermatological training, is necessary in order to make a differential diagnosis between some of the ordinary common run of skin diseases and the so-called "ids."

The various allergic manifestations to fungi as far as the skin is concerned may be classified as follows:

TYPES OF DERMATOPHYTIDS

- I. Epidermal trichophytids (epidermis mainly involved)
 - 1. Eczematoid (dyshidrotic)
 - 2. Lichenoid
 - 3. Parakeratotic
 - 4. Psoriasiform
- II. Cutaneous dermatophytids (papillary body mostly involved)
 - 1. Diffuse forms
 - (a) Scarletiform exanthemata and enanthemata
 - (b) Erythroderma
 - 2. Circumscribed and disseminated forms
 - (a) Follicular localizations, usually lichenoid
 - (b) Not exclusively follicular
 - (1) Macular, papular, and even exudative eruptions
 - (c) Erysipeloid

¹From the Dermatoses Investigations Section, Division of Industrial Hygiene, National Institute of Health.

- III. Subcutaneous dermatophytids (nodules found in the hypoderm of the type of erythema nodosum)
1. Acute resolving form
 2. Destructive chronic form
- IV. Vascular dermatophytids
1. Migrating phlebitis (venous)
 2. Urticaria (capillary)

The secondary manifestations of dermatophytosis, whether they are vesicular, eczematoid, or some other clinical form, cannot be properly treated unless the primary infection is eradicated. The prevention of their recurrence is also a problem of eradicating the focus. Difficulty in treatment is caused by the fact that often there exists such a degree of hypersensitivity to the fungi or their products that only a small focus between the toes or under a toenail may result in marked generalized manifestations, i. e., dermatophytids. Another problem in eradication arises when the infection is localized to the nails where it is difficult to apply antiparasitic methods.

TREATMENT OF DIRECT DERMATOPHYTOSIS

An important prerequisite is often the demonstration of the fungi by direct examination and by culture. This is important because certain types of fungi are notoriously resistant to treatment and most vigorous methods have to be initiated from the outset in order to deal with them. Such types of fungus infections are caused by *Trichophyton rubrum*.

The fungus infections of the skin are usually tinea circinata, tinea cruris in the groin; erythrasma in axillae, tinea versicolor, and dermatophytosis of the feet, the so-called "athlete's foot."

Eczema marginatum, or tinea cruris, is usually located in the inguinal area and is usually caused by *Epidermophyton floccosum* or by *Trichophyton rubrum*.

In the groin or other areas in which there is likely to be maceration, ointments should be used at night only. A typical formula which is fairly efficacious consists of the following:

R 1. Thymol.....	1. 0
Salicylic acid.....	3. 0
Benzoic acid.....	5. 0
Lanolin.....	
Petrolatum āā qs. ad.....	100. 0
Should be used cautiously, and approximates about ½ strength Whitfield's ointment with the addition of thymol.	

Often a tincture is found to be more practical:

R 2. Salicylic acid.....	
Boric acid āā.....	5. 0
Thymol.....	1. 0
Iodine crystals.....	1. 0
Alcohol 50 percent qs. ad.....	100. 0
Paint on twice a day and cover with a dusting powder.	

R 3. Sodium propionate.....	10. 0
Salicylic acid.....	3. 0
Menthol.....	
Phenol aa.....	1. 0
Alcohol qs. ad.....	100. 0
Can be used instead of number 2, and is much milder in its action.	
R 4. Gentian violet.....	0. 3-0. 6
Distilled water or alcohol qs. ad.....	30. 0
Useful for its drying effect and for monilia infections.	

A typical formula for a dusting powder which has some fungistatic value is:

R 5. Salicylic acid.....	
Zinc stearate.....	
Boric acid aa.....	5. 0
Powdered talcum.....	75. 0
Starch qs. ad.....	100. 0

The formula given below is more fungistatic than the one above, and is made commercially:

R 6. Sodium pentachlor phenate.....	0. 1
Benzoic acid.....	5. 0
Zinc peroxide.....	30. 0
Boric acid.....	5. 0
Talc.....	50. 0
Kieselguhr qs. ad.....	100. 0

Both R 5 and R 6 can be used for prophylaxis.

The *circinate superficial* ringworm which may be caused by species of *Trichophyton* or of *Microsporum*, the so-called *tinea circinata*, is treated in the same way as *eczema marginatum*.

Erythrasma which is caused by *Actinomyces minutissimus* and *Pityriasis versicolor* caused by *Malassezia furfur* do not need as vigorous treatment as the two preceding conditions. A thorough cleansing with soap and water and the use of mild peeling antiseptics usually are sufficient to effect a cure.

The use of the following preparations usually suffices.

R 7. Salicylic acid.....	3. 0
Alcohol 50 percent qs. ad.....	100. 0
Use twice a day.	
R 8. Salicylic acid.....	2. 0
Resorcin.....	3. 0-5. 0
Alcohol 50 percent qs. ad.....	100. 0
Use twice a day.	

TRICHOPHYTON RUBRUM

The infections caused by this organism can be recognized clinically by the experienced dermatologist. However, cultures usually give the characteristic features of this fungus both macro and microscopically. This type of infection has been extremely resistant to

treatment and it is only by the use of vigorous methods that it has been kept under control.

R 9. Thymol.....	1.0
Salicylic acid.....	6.0
Benzoic acid.....	10.0
Lanolin.....	
Petrolatum ss qs. ad.....	100.0
Use twice a day. Irritation may result.	
R 10. Chrysarobin.....	0.1-0.5
Petrolatum qs. ad.....	100.0
Use with caution and keep away from eyes. Make fresh.	
Do not use in groin.	
R 11. Anthralan (Abbott Laboratories).....	0.2-1.0
Petrolatum qs. ad.....	100.0
R 12. Chrysarobin.....	2.0-5.0
Chloroform qs. ad.....	100.0
Use twice a day; especially on feet start with low concentration.	
Do not use in groin.	

The above formulas may be tried in all resistant fungus infections of the direct type described in the opening paragraph.

Care should be taken that none of the preparations containing chrysarobin come near mucous membranes, especially the conjunctivae, as marked irritation may result.

TREATMENT OF NAIL INFECTIONS

The most difficult cases to cure are the fungus infections of the nails. Since fungi may grow through the entire thickness of the nail, it is clear that in order to treat such infections successfully some method must be employed which involves either a gradual scraping down of the nail or its removal. A conservative method of treatment consists in the daily scraping of the nail with a file or with sandpaper and the application of an antiseptic ointment or tincture, numbers 9, 10, 11, or 12. The scraping of the nail must be carried down deep enough to make sure that all of the infected parts are thoroughly removed. In a number of instances X-ray treatment has proved beneficial.

TREATMENT OF DEEP DERMATOPHYTOSIS OF HAIRY AREAS

The usual source for this type of infection is an animal such as a horse, cow, cat or dog. The infection is accompanied with more or less inflammation. Pus is often seen at the follicular openings.

The affected parts should be thoroughly cleaned with soap and water and the hairs should be cut as short as possible. Hot, wet dressings are then made and when the pain and inflammation have subsided, manual depilation and removal of crusts, etc., are carried out. In the inflammatory type of fungus infection, especially of the bearded area, X-ray treatment is not usually necessary. Vlemmckx's

solution, boric acid, and Burow's solution may be used as wet dressings. These may be applied for several hours or even longer, several times a day.

Between application of the wet dressings, antiseptic ointments such as R 9 or the following may be used:

R 13. Ammoniated mercury.....	1. 0-3. 0
Petrolatum qs. ad.....	30. 0
R 14. Iodine crystals.....	0. 6
Goose grease qs. ad.....	30. 0
R 15. Oxyquinoline sulfate.....	0. 5
Benzoyl peroxide.....	10. 0
Thymol.....	0. 5
Eucalyptol.....	0. 5
Petrolatum flavum.....	
Anhydrous lanolin aa qs. ad.....	30. 0

This is a good antiseptic ointment for all sorts of infections of the hair follicles. There can be substituted for R 15, quinolor compound ointment of Squibb, which contains chlorhydroxyquinoline instead of the quinoline sulfate.

R 15 is most efficacious when it is made fresh. Very often the quinolor compound ointment of Squibb is in use long after the jar in which it is contained has been opened so that it has lost a great deal of its efficacy.

Superficial fungus infections of hairy regions such as the scalp have not been discussed because they primarily concern children and very often require X-ray epilation.

DERMATOPHYTOSIS OF THE FEET (ATHLETE'S FOOT)

This happens to be the most common of the fungus infections. It has been estimated that from 75 to 90 percent of certain population groups are affected. Unlike other forms of tinea of the glabrous skin, the scaling and other changes are often hidden between the toes. Since hypersensitivity is frequent, all of the allergic manifestations mentioned in paragraph 3 can be seen. The most common associated manifestations of athlete's foot are the so-called dermatophytids on the hands.

The most common causative agent in the temperate zone is the variable species *Trichophyton mentagrophytes* (*T. gypseum*, *T. interdigitale*, *T. pedis*, *T. niveum*, etc.). This organism is important because it has a high sensitizing power. Most of the individuals infected with this organism will become sensitized to the fungi or their products. The sensitivity may be demonstrated by the presence of a positive trichophytin test before the dermatophytids develop.

The trichophytin test is carried out by the intradermal injection of trichophytin, an extract prepared from species of *Trichophyton*. In 24 to 48 hours in hypersensitive individuals there develops at the injection site various degrees of reaction from erythema to vesicles and papules analogous to the tuberculin test. Dermatophytids do not

develop except when the skin is sensitized. The failure of a patient to react to the intradermal injection of trichophytin is useful evidence in the differential diagnosis of dermatophytid.

The most common form of dermatophytids associated with the fungus infection between the toes is manifested by vesicles along the sides of the fingers. These lesions have been called dyshidrotic epidermophytids. Another form of the same condition in which the vesicles are microscopic and become manifest only when scaling takes place is known as dyshidrosis lamellosa sicca. Sometimes instead of these two clear-cut forms, there are eczematoid types of lesions on the hands which are difficult to differentiate from eczemas caused by other factors or from contact dermatitis. As shown in the table in paragraph 3, in the more rare types of "ids" all sorts of manifestations resembling other dermatological conditions can be seen following hematogenous dissemination of the fungi or their products.

As stated previously, these dermatophytids can be treated properly only if the primary focus is entirely eradicated. Sometimes this is difficult, so in addition to the local treatment of the dermatophytosis the so-called desensitization therapy must be attempted. This desensitization therapy is carried out by injections of trichophytin. Sometimes this treatment is successful, but in many instances, even though there is apparent desensitization, clinical improvement may not result.

PROPHYLAXIS

It would be desirable if a treatment could be devised which would not only prevent the occurrence of new cases but, what is more important, would also prevent the reinfection of known susceptible individuals. It is still a debatable point whether fungus infections are easily spread in shower and locker rooms. The writers have suggested that instead of the use of foot baths and similar measures to destroy any fungi which might be picked up from flooring, etc., individual slippers with wooden soles should be used. If these are worn to and from and in the showers, it would prevent contact between the wearer and any source of infection. These wooden slippers can be sterilized about once a week by placing them in 1 percent liquor cresolis compositus, or by steam sterilization if necessary. If foot baths must be used, liquor cresolis compositus or sodium hypochlorite 1 percent solution in rubber pans is sufficient. The sodium hypochlorite solution should be removed daily or after each shift of bathers and a fresh supply made, as the chlorine is slowly given off and it loses its efficacy. It must also be borne in mind that with frequent use of the foot baths, the antiseptic is gradually diluted to the point of inefficacy with the carrying in of water from the shower.

After the shower the feet must be thoroughly dried, and it is advisable that a powder such as R 5 and R 6 be placed between the toes.

Socks should be changed daily if "athlete's foot" is present. In addition, several times a week, or even daily where there is a high frequency of fungus infections, an antiseptic liquid of some sort should be applied between the toes and on the soles previous to the application of foot powder. Such a liquid is R̄ 2, R̄ 3, or R̄ 7.

TREATMENT OF THE ACTUAL DERMATOPHYTOSIS OF THE FEET

Dermatophytosis, like any other skin disease, may have an acute, a subacute, and a chronic form. In the acute stage with vesicles, swelling, erythema and pustules, and a great deal of weeping, wet dressings are indicated. Foot baths with dilute liquor cresolis compositus U. S. P., about ½ percent solution, taken two or three times a day for 15 minutes are beneficial. Immersion in potassium permanganate 1:8000, hot, for 15 minutes two or three times a day is also helpful. Between foot baths, foot powder can be used, formula R̄ 5 or R̄ 6. If necessary, continuous wet dressings can also be used. *In the presence of a high degree of sensitivity and an eruption which has spread to the rest of the body, it is not advisable to treat the primary lesion too vigorously.* Should too vigorous treatment be instituted, there is an actual rapid killing of fungi and dissemination of their toxins with intensification of the allergic manifestations. Under those conditions it is better to use mild wet dressings like Burow's solution or boric acid solution.

When there is a secondary infection with a pustular element, one of the best wet dressings is the use of 0.125 percent or 0.25 percent silver nitrate as a wet dressing. If there is a great deal of weeping and oozing, aqueous tannic acid 5 percent can be used. Once the acute manifestations subside, boric acid ointment, Lassar's paste with salicylic acid, or any mild ointment therapy may be used to help get rid of the scales.

TREATMENT OF THE SUBACUTE FORM

Some sort of a keratolytic and an antiseptic are needed for this treatment. R̄ 1 can be used at night and in daytime. R̄ 2 and R̄ 3 can be used, followed by the foot powder R̄ 5 or R̄ 6. A foot bath with potassium permanganate or liquor cresolis compositus can be used in the morning instead of the tinctures. As improvement occurs, the ointment therapy can be substituted for the tincture at night and the foot powder in the morning. If there is more of an eczematoid stage, a mild tar ointment in a vanishing cream base is extremely helpful.

R̄ 16. Salicylic acid.....	5.0
Cetyl tar distillate.....	6.0
Cetyl alcohol.....	70.0
Stearyl alcohol.....	8.0

R 16. Ceresin white.....	7. 0
Lanolin.....	32. 0} or very liquid
Olive oil.....	32. 0} petrolatum 64. 0
Dupunol W A concentrated.....	3. 0

To the above can be added sodium propionate 10 percent, which adds to its efficacy. This is applied twice a day.

TREATMENT OF THE CHRONIC FORM

In the chronic type, R 16, or if necessary R 9, R 10, R 11, or R 12, can be tried with caution. The last three formulas should not be used if there are dermatophytids present. In some cases, X-ray under the supervision of a dermatologist may have to be given, or trichophytin injections may have to be tried.

In most cases of the more chronic type considerable experience is necessary in order to juggle the various types of therapy. The treatment is not so much a matter of a specific against fungus infections as having adequate dermatological training to treat properly a patient with dermatologic manifestations. For the nondermatologist a good routine would be one in which the best possible prophylaxis is carried out to prevent recurrences.

STERILIZATION OF MATERIALS

Infected socks and shoes present a problem in reinfection. It has been suggested that the socks, if they are woollen or for other reasons cannot be boiled, should be thrown into a 1 percent liquor cresolis compositus solution, allowed to soak overnight, and washed with cold water. The dusting powders R 5 and R 6 may also be used in the shoes.

The infected socks and shoes can be placed in a closed receptacle and exposed to the vapors of formaldehyde. This can be practically carried out by the use of paraformaldehyde tablets. The materials are kept in a closed box for 24 to 48 hours, and then thoroughly aired before wearing in order to prevent a formaldehyde contact dermatitis.

It is realized that in tropical countries there may be types of fungus infections with which the authors have had no experience. It is believed, however, that since personnel being sent into tropical climates are carrying the fungus infections with them, it is possible that the problem there is not so much that of an unusual fungus but rather the effect of excessive moisture and heat, which are excellent for the propagation and dissemination of the fungi which may cause an aggravation of symptoms.

It is important to bear in mind that after the fungus infection has been brought under control, the patient be instructed to:

(1) Make sure that proper precautions are taken to prevent reinfection in showers, etc.

- (2) A foot powder, R 5 or R 6, is used between the toes and dusted into socks and shoes after thoroughly drying the feet.
- (3) Once or twice a week the feet be painted with R 2 or R 3.
- (4) Socks changed daily if possible.
- (5) If there is a great deal of hyperidrosis, foot baths should be taken with liquor cresolis compositus (1 percent) or potassium permanganate (1:8000).

TREATMENT OF CANDIDA (MONILIASIS) INFECTIONS

Just as in the infections with the fungi previously mentioned, there are the direct superficial infections caused by species of *Candida* and yeasts and allergic reactions to these fungi. The direct infections are *erosio interdigitalis blastomycetica*, *onychchia* and *paronychia*, and other types of localized or generalized intertriginous and pustular forms of these infections. The allergic manifestations which may accompany these infections are known as moniliids. According to a number of authorities these secondary eruptions may develop from moniliasis in the internal organs.

The treatment consists of the use of preparation R 4, R 13, or any of the other preparations recommended for superficial fungus infections. R 4 is especially useful.

STATUS OF FULL-TIME LOCAL HEALTH ORGANIZATION AT THE END OF THE FISCAL YEAR 1941-1942¹

By F. W. KRATZ, *Surgeon, United States Public Health Service*

In a previous article² it was stated that the number of counties in the United States served by local public health units under the direction of a full-time health officer increased from 15 in 1915 to 762 in 1935. By June 30, 1940, the number had increased to 1,577, and by June 30, 1941, to 1,668.

An inventory of the full-time local health services in operation on June 30, 1942, indicates that during the fiscal year 1942 progress in the establishment of such services continued at an accelerated rate. During the year full-time service was extended to 160 additional counties, bringing the total number of counties with such service on June 30, 1942, to 1,828 in the continental United States. This represents an increase of 9.6 percent in the number of counties served. The corresponding increase for the previous fiscal year was 91 counties, while the rate of increase was 5.8 percent.

Thus, on June 30, 1942, approximately 60 percent of the 3,070 counties in the continental United States were under some form of full-time local health service, as compared with approximately 54 percent a year earlier. By taking into account the 107 full-time

¹ From the States Relations Division.

² Kratz, F. W.: The present status of full-time local health organization. Pub. Health Rep., 57: 194-196 (1942).

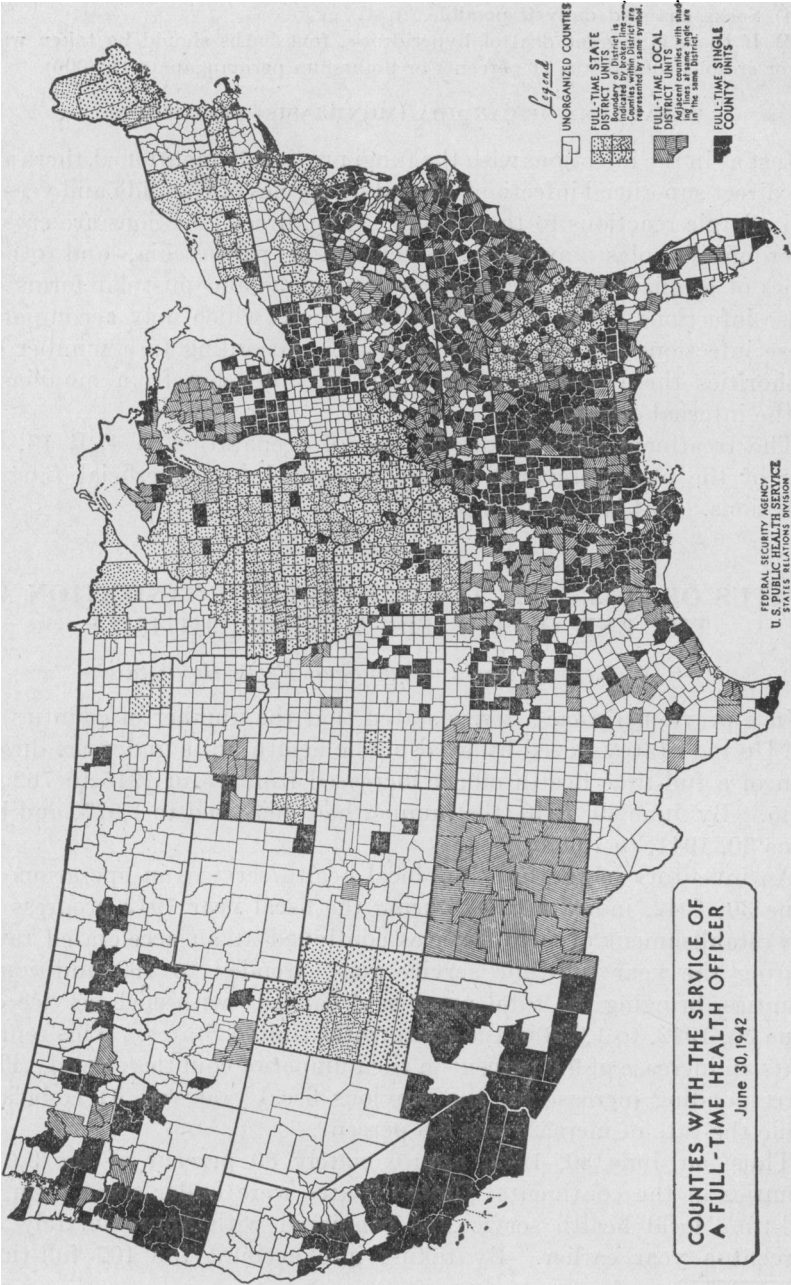


FIGURE 1.

municipal health units whose budgets for the fiscal year 1942 were reported to the United States Public Health Service, it would appear that more than 75 percent of the population of the continental United States was provided with full-time service on June 30, 1942, as compared with 70 percent a year previously.

The accompanying map (fig. 1) shows the geographical distribution of counties with the services of a full-time health officer in the United States on June 30, 1942. It also shows the distribution of such services according to types of administrative units. The three types of units shown are: (1) the single-county unit, (2) the local-district unit comprising two or more counties under local administration, and (3) the State-district unit comprising two or more counties under centralized administration of the State health department.

Comparative tabular data with regard to the number and types of units as well as the number and percentage of counties served by each type of unit on December 31, 1935, June 30, 1941, and June 30, 1942, are given in table 1.

TABLE 1.—*Distribution of county and district health units, and of counties served by such units in the continental United States in 1935, 1941, and 1942, by type of unit*

Date of enumeration	Distribution of health units of specified types				Distribution of counties served in health units of specified types			
	Total	Single county	Local district	State district	Total	Single county	Local district	State district
	Number of units				Number of counties			
Dec. 31, 1935.....	561	486	41	34	762	486	124	152
June 30, 1941.....	927	662	153	112	1,668	662	426	580
June 30, 1942.....	975	660	187	128	1,828	660	469	699
	Percent of units				Percent of counties			
Dec. 31, 1935.....	100.0	86.6	7.3	6.1	100.0	63.7	16.3	20.0
June 30, 1941.....	100.0	71.4	16.5	12.1	100.0	39.8	25.5	34.7
June 30, 1942.....	100.0	67.7	19.2	13.1	100.0	36.1	25.7	38.2

The increases during the period December 31, 1935, to June 30, 1942, in the number and percentage of each type of unit as well as the increases in the number and percentage of counties served by each type are shown in table 2.

Similar comparative data for the period June 30, 1941, to June 30, 1942, are given in table 3.

The trend towards the organization of health units on a district rather than a single-county basis may have been given further impetus during the fiscal year 1942 by the shortage of all types of health personnel. With large numbers of physicians, nurses, engineers, and other health workers entering the armed forces, it has sometimes been neces-

TABLE 2.—*Change in the number of county and district health units and in the number of counties served in such units in the continental United States from December 31, 1935, to June 30, 1942*

Type of health unit	County and district health units				Counties served in health units			
	Number of units in 1935	Number of units in 1942	Increase from 1935 to 1942		Number of counties in 1935	Number of counties in 1942	Increase from 1935 to 1942	
			Number	Percent			Number	Percent
All types.....	561	975	414	73.8	762	1,828	1,066	139.9
Single counties.....	486	660	174	35.8	486	660	174	35.8
Local districts.....	41	187	146	356.1	124	469	345	278.2
State districts.....	34	128	94	276.5	152	669	547	195.4

TABLE 3.—*Change in the number of county and district health units and in the number of counties served in such units in the continental United States from June 30, 1941, to June 30, 1942*

Type of health unit	County and district health units				Counties served in health units			
	Number of units in 1941	Number of units in 1942	Increase from 1941 to 1942		Number of counties in 1941	Number of counties in 1942	Increase from 1941 to 1942	
			Number	Percent			Number	Percent
All types.....	927	975	48	5.2	1,668	1,828	160	9.6
Single counties.....	662	660	-2	-.3	662	660	-2	-.3
Local districts.....	153	187	34	22.2	426	469	43	10.1
State districts.....	112	128	16	14.3	580	699	119	20.5

sary for adjacent counties to combine their resources and make joint use of available personnel. Moreover, in many areas the district form of organization is better suited than the county form to the rendering of service on a true community basis, since the boundaries of the local social and economic unit often transcend county lines. Wherever district health units are formed for the purpose of providing service to a unified and cohesive community group, the step must be regarded as a progressive one. Nevertheless, it should be pointed out that many district organizations, notably the State-district units, comprise an area too extensive for the rendering of adequate local service.

The current trend which is not specifically reflected by the data here presented is the combination of part-time county and municipal health organizations to form full-time county-city units. This, too, is an indication of a disposition to shape the pattern of health organization according to community needs rather than arbitrarily imposed political jurisdictions. Such combination usually results in a better type of service, and it can frequently be effected with little or no increase in expenditures.

Table 4 provides a comparison of the status of full-time local health service on December 31, 1935, and June 30, 1942.

Progress in the development of adequate local health services continues to receive its chief impetus from the Federal financial assistance

TABLE 4.—*Distribution of county and district health units and counties served in such units on June 30, 1942, and changes in the number of units and of counties served therein from December 31, 1935, to June 30, 1942, by States in the continental United States*

	All county health units						Single county units						Local district units						State district units					
	Number of units			Number of counties served			Number of units			Number of counties served			Number of units			Number of counties served			Number of units			Number of counties served		
	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹
Total.....	975	561	414	1,828	762	1,066	660	486	174	187	41	146	469	124	345	128	94	609	152	547				
Alabama.....	60	56	4	67	56	11	53	56	-3	7		7	14		14									
Arizona.....	6	4	2	5	4	1	6	4	2															
Arkansas.....	27	17	10	48	19	29	16	16		11	1	10	32	3	29	2								
California.....	28	16	12	27	16	11	25	16	9	1		1	2		2	2								
Colorado.....	3		3	4		4	2		2	1		1	2		2									
Connecticut.....																								
Delaware.....	3	3		3	3																			
Dist. of Columbia.....																								
Florida.....	26	3	22	34	3	31	17	3	14	8		8	17		17	6		100						
Georgia.....	52	28	24	159	31	128	36	26	10	10	2	8	23	5	18									
Idaho.....	6		6	10		10	3		3	2		2	7		7									
Illinois.....	21		21	100		100	4		4							17		96						96
Indiana.....	9		9	46		46	1		1							8		45						45
Iowa.....	14	1	13	99	1	98	4	1		3						10		95						95
Kansas.....	12	3	9	15	3	12	11	3	8							1		4						4
Kentucky.....	65	76	-11	95	76	19	41	76	-35	24		24	54		54									
Louisiana.....	47	34	13	53	34	19	41	34	7	6		6	12		12									
Maine.....	6	6		10	15	1																		
Maryland.....	23	23		23	23		23	23								6		16						
Massachusetts.....	10	3	7	13	4	9	1	2	-1	1	1		2	2		8		10						
Michigan.....	44	22	22	66	40	26	32	15	17	12	7	5	34	25	9									
Minnesota.....																4		28						28
Mississippi.....	56	25	31	60	25	35	50	25	25	6		6	15		15	9		90						90
Missouri.....	22	5	17	112	5	107	13	5	8															
Montana.....	5	3	2	5	3	2	5	3	2															
Nebraska.....	5		5	12		12	1		1	3		3	6		6	1		5						5
Nevada.....	1		1				1		1															
New Hampshire.....				1		1										1		2						2
New Jersey.....	8	5	3	17	11	6	2		2							6		15						15
New Mexico.....	10	10		31	31					10	10		31	31										

See footnotes at end of table.

TABLE 4.—*Distribution of county and district health units and counties served in such units on June 30, 1942, and changes in the number of units and of counties served therein from December 31, 1935, to June 30, 1942, by States in the continental United States—Continued*

	All county health units						Single county units						Local district units						State district units					
	Number of units			Number of counties served			Number of units			Number of counties served			Number of units			Number of counties served			Number of units			Number of counties served		
	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹	1942	1935	Change ¹
New York.....	25	20	5	59	57	2	6	5	1	15	4	11	40	13	27	19	15	4	53	52	1	6	6	6
North Carolina.....	58	39	19	83	48	35	43	35	8	1	1	1	1	1	1	4	4	1	6	6	6	6	6	6
North Dakota.....	2	2	0	7	7	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ohio.....	51	39	12	53	39	14	49	39	10	2	2	2	4	4	4	8	8	21	21	21	21	21	21	21
Oklahoma.....	26	2	24	39	2	37	18	2	16	8	8	8	21	21	21	1	1	1	1	1	1	1	1	1
Oregon.....	18	6	12	20	6	14	16	6	10	2	2	2	4	4	4	1	1	1	1	1	1	1	1	1
Pennsylvania.....	11	11	0	22	22	0	22	21	1	11	1	10	23	2	21	3	3	3	3	3	3	3	3	3
Rhode Island.....	3	3	0	5	5	0	2	2	2	2	2	2	8	8	8	1	1	1	1	1	1	1	1	1
South Carolina.....	83	22	61	45	23	22	22	21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
South Dakota.....	4	4	0	10	10	0	2	2	2	2	2	2	8	8	8	1	1	1	1	1	1	1	1	1
Tennessee.....	51	35	16	66	40	26	38	30	8	13	5	8	28	10	18	18	18	18	18	18	18	18	18	18
Texas.....	89	7	82	61	9	52	26	6	20	13	1	12	35	3	32	5	5	5	5	5	5	5	5	5
Utah.....	6	1	5	28	1	27	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Vermont.....	33	19	14	49	40	9	23	10	13	10	9	1	26	30	4	1	1	1	1	1	1	1	1	1
Virginia.....	12	8	4	17	8	9	8	8	4	4	4	4	9	9	9	4	4	4	4	4	4	4	4	4
Washington.....	21	14	7	36	14	22	16	14	2	5	5	5	20	20	20	9	9	9	9	9	9	9	9	9
West Virginia.....	12	5	7	71	71	0	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1
Wisconsin.....	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Wyoming.....	1	1	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

¹ Minus sign denotes decrease.² Includes town in Middlesex and Worcester Counties.

granted to States since February 1936, under the terms of Title VI of the Social Security Act and since July 1938, under the terms of the Federal Venereal Disease Control Act. During the fiscal year 1942, however, an additional factor of great influence was the provision by the United States Public Health Service of professional health and sanitation personnel to communities which were not able to cope with the health problems arising out of the war emergency. With the aid of such personnel some form of full-time health service has been provided to practically every major war area in the United States: In some instances new units have been established and staffed largely with Public Health Service personnel assigned to the States. In others the staffs of existing units have been augmented in accordance with emergency needs. The scope and effect of this form of Federal aid is indicated by the fact that on June 30, 1942, a total of 515 Public Health Service personnel was engaged in emergency field duty in approximately 250 military or war-industry areas throughout the United States.

The efforts now being made to meet emergency needs with diminishing human and material resources are providing valuable lessons with regard to the most effective methods of operation. Under the pressure of events, long-standing inertia is being broken down and a "good neighbor" policy concerning the utilization of health personnel and facilities is more and more in evidence. Undoubtedly, the benefits of such a policy will be sufficiently manifest to exert a strong influence in the determination of future methods and forms of organization.

EXPERIMENTAL ROCKY MOUNTAIN SPOTTED FEVER: RESULTS OF TREATMENT WITH CERTAIN DRUGS ¹

By EDWARD A. STEINHAUS, *Associate Bacteriologist*, and R. R. PARKER,
Director, Rocky Mountain Laboratory, United States Public Health Service

In 1939, Topping (1) reported that Prontosil and sulfapyridine are of no apparent value for the treatment of Rocky Mountain spotted fever in guinea pigs. Recent studies have led the authors to the same conclusion with respect to sulfathiazole, sodium sulfathiazole, sulfaguanidine, sulfadiazine, Atabrine, and tyrothricin.²

A highly fatal western Montana strain of Rocky Mountain spotted fever was used. The dosages of each drug varied according to its degree of toxicity. In general at least 3 dosages were selected and these were administered once, twice, or three times daily. Test data, results, and variations in procedure are presented in table 1.

¹ Contribution from the Rocky Mountain Laboratory (Hamilton, Mont.), National Institute of Health.

² The authors wish to thank the following concerns for furnishing the drugs used in this investigation: Winthrop Chemical Co. (sulfathiazole, sodium sulfathiazole, Atabrine), Lederle Laboratories (sulfaguanidine), Merck and Co. (tyrothricin), and Abbott Laboratories (sulfadiazine).

TABLE 1.—Data concerning administration of certain drugs for treatment of Rocky Mountain spotted fever in laboratory animals

Drug and route of administration	Number of animals	Dosage in grams	Doses per day	Number of days at least one animal treated	Days after inoculation treatment initiated	Comments
Sulfathiazole (oral)....	2	.08	1	7	2-----	No apparent value.
	2	.03	3	8	2-----	Do.
	2	.07	1	7	2-----	Do.
	4	.07	3	10	{2-2 days after.	Do.
	2	.15	1	8	{2-same day...	Do.
	4	.15	3	10	{2-2 days after.	Do.
	2	.3	3	10	{2-same day...	Do.
	2	.3	3	10	same day...	Do.
Sodium sulfathiazole (subcutaneous).	1	.05	1	7	2-----	Do.
	1	.05	2	7	2-----	Do.
	1	.10	1	7	2-----	Do.
	1	.10	2	7	2-----	Do.
	2	.10	2	9	same day...	Do.
	1	.50	1	7	2-----	Do.
Sulfaguanidine (oral)...	2	.05	1	9	same day...	Do.
	2	.05	2	8	do.....	Do.
	2	.10	1	8	do.....	Do.
	2	.10	2	8	do.....	Do.
	2	.50	1	4 and 7	do.....	Drug toxic; animals dead on fourth and seventh days.
	2	.50	2	4 and 5	do.....	Drug toxic; animals dead on fourth and fifth days.
	2	.50	2	4 and 5	do.....	Drug toxic; animals dead on fourth and fifth days.
Sulfadiazine (oral)....	2	.04	1	10	do.....	No apparent value.
	2	.04	3	10	do.....	One died on second day—cause unknown.
	2	.08	1	11	do.....	No apparent value.
	2	.08	3	10	do.....	Do.
	2	.20	1	10	do.....	Do.
	2	.20	3	10	do.....	Do.
Atabrine (oral).....	2	.01	1	10	1-----	Do.
	2	.01	2	10	1-----	Do.
	2	.05	1	11	same day...	Do.
	2	.05	2	11	do.....	Do.
	4	.1	1	11	{2-same day...	1 died on sixth day following ad-
	4	.1	2	11	{2-next day...	ministration of drug.
	4	.1	2	11	{2-same day...	3 died on fourth to eighth day
	2	.2	1	12	{2-next day...	probably due to drug.
	2	.2	2	3	1-----	1 died on seventh day.
	2	.2	2	3	1-----	Other animal died on twelfth day.
Tyrothricin (intra-peritoneal).	1	.4	1	3	1-----	1 died on third day.
	2	.002	1	11	same day...	Other animal died on second day.
	2	.002	2	8	do.....	Dead on third day.
	2	.01	1	6	do.....	Dead on tenth and thirteenth days.
	2	.01	2	6	do.....	Dead on eighth and ninth days.
	2	.1	1	1	do.....	Dead on fifth and seventh days.
	2	.1	2	1	do.....	Dead on seventh day.
Tyrothricin (oral).....	2	.002	1	10	do.....	Dead on second day.
	2	.002	2	12	do.....	Do.
	2	.01	1	11	do.....	Dead on eleventh day.
	2	.01	2	12	do.....	1 dead on tenth day.
	2	.1	1	6	do.....	1 dead on eleventh day.
	2	.1	2	7	do.....	Dead on twelfth and fourteenth days.
	2	.1	2	7	do.....	Dead on fifth and sixth days.
	2	.1	2	7	do.....	Dead on second and seventh days.

NOTE: Rabbits used in Atabrine tests; guinea pigs in all others. Control animals receiving only drugs showed no ill effects except as indicated in "comments" column. Control animals receiving only virus showed typical spotted fever.

REFERENCE

- (1) Topping, N. H.: Experimental Rocky Mountain spotted fever and endemic typhus treated with Prontosil or sulfapyridine. Pub. Health Rep., 54: 1143-1147 (1939).

TRIATOMA SANGUISUGA (LeCONTE) AND TRIATOMA AMBIGUA NEIVA AS NATURAL CARRIERS OF TRYPANOSOMA CRUZI IN TEXAS¹

By DORLAND J. DAVIS, *Passed Assistant Surgeon, United States Public Health Service*, THEODORE MCGREGOR, *Entomologist, Bureau of Laboratories, Texas State Department of Health*, and THELMA DESHAZO, *Bacteriologist, Bureau of Laboratories, Texas State Department of Health*

American trypanosomiasis, or Chagas' disease, was first described in Brazil by Carlos Chagas in 1909 (1) and was shown to be caused by the protozoan flagellate *Trypanosoma cruzi*, and to be transmitted by a blood-sucking insect of the family Reduviidae, or cone-nosed bugs. In the United States six species of this insect group have been reported naturally infected with *Trypanosoma cruzi*. They are: *Triatoma protracta* Uhler (2), *Triatoma uhleri* Neiva (2), *Triatoma gerstaeckeri* (Stal) (3), *Triatoma heidemanni* Neiva (4), *Triatoma longipes* Barber (5), and *Triatoma protracta woodi* Usinger (5).

This report adds two more species, *Triatoma sanguisuga* (LeConte), and *Triatoma ambigua* Neiva, to those already recorded as harboring the parasite. Brumpt (6, 7) experimentally infected *Triatoma sanguisuga* with *Trypanosoma cruzi*, and Packchanian (8) has similarly infected *Triatoma ambigua* (*T. sanguisuga ambigua*) with this trypanosome.

During the study in 1942 of the potential problem of American trypanosomiasis in Texas conducted cooperatively by the United States Public Health Service and the Texas State Department of Health, several hundred specimens of *Triatoma* (commonly called blood-suckers or kissing bugs) of various species were collected in different parts of the State.² Interested persons who found the insects about their homes submitted many of them. The others were collected chiefly from nests of the wood rat (*Neotoma micropus*).

Microscopical examinations were made of fecal material expressed from the digestive tract of nine specimens of *T. sanguisuga* and six specimens of *T. ambigua* while they were alive. Many crithidia and metacyclic trypanosome forms were found in four of the former and in two of the latter species. The specimens of *T. sanguisuga* which harbored the parasites were from Matagorda and Dimmit Counties, and the infected specimens of *T. ambigua* were from Uvalde County.

A saline suspension of the dejecta from each positive insect was inoculated intraperitoneally into young, laboratory-reared desert mice (*Peromyscus eremicus*). One to three animals were injected with

¹ From the Division of Infectious Diseases, National Institute of Health, and the Bureau of Laboratories, Texas State Department of Health.

² H. G. Barber of the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, made the specific determinations. W. H. Ewart of the Texas Agricultural Experiment Station at Winter Haven, Texas, collected many of the specimens.

material from each bug, a total of five mice being inoculated from the positive specimens of each species.

Eight to sixteen days later trypanosomes were found in fresh blood films of all the mice. At this time there were 1 or 2 organisms per 100 microscopic fields (4 mm. objective and 10X ocular), and in mice surviving until the thirtieth day there were 100 to 200 trypanosomes per 100 fields. They were actively motile and twisted and writhed rapidly, but did not progress across the microscopic field. Thin blood films stained with Leishman's stain showed trypanosomes morphologically identical to a known strain of *Trypanosoma cruzi* recovered from a human case in Panama.³

Of the five mice inoculated with the infected fecal material from the specimens of *T. sanguisuga*, four were sacrificed between the twenty-first and thirty-seventh day after injection, and one was found dead on the thirteenth day. Histological examinations of heart muscle, stained with Romanowsky stain or hemotoxylin and eosin, revealed the characteristic leishmania forms in two animals, extensive lymphocytic interstitial infiltration in one, and slight infiltration in the fourth. Heart blood from two of these animals was inoculated into young desert mice which showed trypanosomes in their peripheral blood on the eighth day.

Five mice inoculated with infected fecal material from two specimens of *T. ambigua* were sacrificed between the seventeenth and twenty-third day, and histological examinations showed the leishmania forms in the heart muscle fibers of all of them. A young wood rat (*Neotoma micropus*) was inoculated with blood from one of them, and its blood subsequently was found to contain the trypanosomes.

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- (2) Kofoid, C. A., and Whitaker, B. C.: Natural infection of American human trypanosomiasis in two species of cone-nosed bugs, *Triatoma protracta* Uhler and *Triatoma uhleri* Neiva, in the western United States. J. Parasitol., 22:259 (1936).
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³The authors are indebted to C. M. Johnson of the Gorgas Memorial Laboratory, Panama, for this train.

PUBLIC HEALTH SERVICE PUBLICATIONS

A list of publications issued during the period July–December 1942

The following is a list of publications of the United States Public Health Service issued during the period July–December 1942.

The purpose of the publication of this list is to provide a complete and continuing record of Public Health Service publications, for reference use by librarians, scientific workers, and others interested in particular fields of public health work, and not to offer the publications for indiscriminate free public distribution.

Those publications marked with an asterisk (*) may be obtained only by purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices noted.

Periodicals

- *Public Health Reports (weekly), July–December, vol. 57, Nos. 27 to 52, pages 987 to 2002. 5 cents a number.
- *Venereal Disease Information (monthly), July–December, vol. 23, Nos. 7 to 12, pages 249 to 466. 5 cents a number.
- *Journal of the National Cancer Institute (bimonthly), June–October, vol. 2, No. 6, pages 531 to 640, and vol. 3, Nos. 1 and 2, pages 1 to 226. 40 cents a number.

Reprints From the Public Health Reports

- 2387. An epidemic of acute respiratory infection of unusual type. By J. W. Oliphant and T. R. Dawber. July 3, 1942. 5 pages.
- 2388. Current needs for health personnel. By G. St. J. Perrott and Harold F. Dorn. July 3, 1942. 4 pages.
- 2389. A study of the "skin test" with meningococcus toxins in a group of boys. By Arthur Parker Hitchens, Sara E. Branham, and Manly B. Root. Studies on bactericidal and phagocytic activity of normal human blood on meningococci in relation to the "skin test" with meningococcus toxins. By Sara E. Branham, Arthur Parker Hitchens, and Manly B. Root. July 10, 1942. 17 pages.
- 2390. Studies of sewage purification. XVI. Determination of dissolved oxygen in activated sludge-sewage mixtures. By C. C. Ruchhoft and O. R. Placak. July 17, 1942. 14 pages.
- 2391. Studies of the acute diarrheal diseases. IX A. *Shigella dysenteriae* infections among institutional inmates. By Albert V. Hardy, Rebecca L. Shapiro, Harry L. Chant, and Morris Siegel. IX B. *Shigella dysenteriae* infections among institutional inmates. By James Watt, Albert V. Hardy, and Thelma DeCapito. July 24, 1942. 24 pages.
- 2392. Mental hygiene services in rural areas. The program of the Mental Hygiene Division, Suffolk County Department of Health, New York. By George M. Lott. July 31, 1942. 12 pages.
- 2393. Transmission of rubella to *Macacus mulatta* monkeys. By Karl Habel. July 31, 1942. 14 pages.
- 2394. Domestic water and dental caries. V. Additional studies of the relation of fluoride domestic waters to dental caries experience in 4,425 white children, aged 12 to 14 years, of 13 cities in 4 States. By H. Trendley Dean, Francis A. Arnold, Jr., and Elias Elvove. August 7, 1942. 25 pages.

2395. Distribution of health services in the structure of State government. Chapter VI. Medical and dental care by State agencies. By Joseph W. Mountin and Evelyn Flook. August 14 and 21, 1942. 55 pages.
2396. Reconnaissance of anopheline larval habitats and characteristic desmids of the Okefenokee Swamp, Georgia. By W. C. Frohne. August 14, 1942. 9 pages.
2397. Report on market-milk supplies of Standard Milk Ordinance communities, July 1, 1940-June 30, 1942. August 14, 1942. 5 pages.
2398. Evaluating dental health programs. By John W. Knutson. August 28, 1942. 20 pages.
2399. Note on a toxic principle in eggs of the tick, *Dermacentor andersoni* Stiles. By Edward A. Steinhause. August 28, 1942. 3 pages.
2400. A technique for staining, dissecting, and mounting the male terminalia of mosquitoes. By W. H. W. Komp. September 4, 1942. 7 pages; 1 plate.
2401. Data on the concurrence of death from tuberculosis, influenza and pneumonia, cancer, and heart diseases among husbands and wives. By Antonio Ciocco. September 4, 1942. 9 pages.
2402. Disabling morbidity among male and female industrial workers during 1941, and among males during the first quarter of 1942. By William M. Gafafer. September 4, 1942. 4 pages.
2403. Location and movement of physicians, 1923 and 1938—General observations. By Joseph W. Mountin, Elliott H. Pennell, and Virginia Nicolay. September 11, 1942. 13 pages.
2404. Studies on the duration of disabling sickness. II. Duration of disability from sickness and nonindustrial injuries among male workers, disabilities lasting one calendar day or longer. By William M. Gafafer and Elizabeth S. Frasier. September 11, 1942. 7 pages.
2405. Frequency and volume of hospital care for specific diseases in relation to all illnesses among 9,000 families, based on Nation-wide periodic canvasses, 1928-31. By Selwyn D. Collins. September 18 and 25, 1942. 51 pages.
2406. The incidence of pneumonia as recorded in the National Health Survey. By Rollo H. Britten. October 2, 1942. 16 pages.
2407. Infant mortality in rural and urban areas. By Herbert J. Sommers. October 2, 1942. 8 pages.
2408. *Ornithodoros parkeri* and relapsing fever spirochetes in southern Idaho. By Gordon E. Davis. October 2, 1942. 3 pages.
2409. Cultural characteristics of zooglyca-forming bacteria isolated from activated sludge and trickling filters. By Elsie Wattie. October 9, 1942. 16 pages; 1 plate.
2410. The chemotherapeutic action of a N-phosphoryl derivative of 4-4'-diaminodiphenylsulfone. By M. I. Smith, S. M. Rosenthal, and E. L. Jackson. October 9, 1942. 9 pages.
2411. Prevention and treatment of agranulocytosis and leukopenia in rats given sulfanilylguanidine or succinyl sulfathiazole in purified diets. By S. S. Spicer, Floyd S. Daft, W. H. Sebrell, and L. L. Ashburn. October 16, 1942. 8 pages.
2412. The incidence of cancer in San Francisco and Alameda counties, California, 1938. By Herbert J. Sommers. October 16, 1942. 21 pages.
2413. The production of carious lesions in the molar teeth of hamsters (*C. auratus*). By Francis A. Arnold, Jr. October 23, 1942. 6 pages; 2 plates.
2414. An analysis of sanitary facilities in the United States. By J. M. Dalla-Valle and Rollo H. Britten. October 23, 1942. 10 pages.

2415. Variation in hospitalization with size of city, family income, and other environmental factors. Based on records for 9,000 families in 18 States visited periodically for 12 months, 1928-31. October 30, 1942. By Selwyn D. Collins. 25 pages.
2416. A summary of census data on water treatment plants in the United States. By S. R. Weibel. November 6, 1942. 16 pages.
2417. A contribution on the toxicity of algae. By R. E. Wheeler, James B. Lackey, and Stuart Schott. November 6, 1942. 7 pages.
2418. The isolation of *Haplosporangium parvum* n. sp. and *Coccidioides immitis* from wild rodents. Their relationship to coccidioidomycosis. By C. W. Emmons and L. L. Ashburn. November 13, 1942. 13 pages.
2419. Chaulmoogra oil in the treatment of leprosy. By G. W. McCoy. November 13, 1942. 6 pages.
2420. *Antricola* new genus, *Amblyomma gertschi* new species, and notes on *Ixodes spinipalpis* (Acarina: Ixodoidea). By R. A. Cooley and Glen M. Kohls. November 13, 1942. 3 pages.
2421. Chloracne from cutting oils. By Louis Schwartz and Frank A. Barlow. November 20, 1942. 6 pages; 6 plates.
2422. Location and movement of physicians, 1923 and 1938—Turnover as a factor affecting State totals. By Joseph W. Mountin, Elliott H. Pennell, and Virginia Nicolay. November 20, 1942. 10 pages.
2423. A disability table for urban workers. By Harold F. Dorn. November 20, 1942. 14 pages.
2424. Biological products. Establishments licensed for the propagation and sale of viruses, serums, toxins, and analogous products. November 20, 1942. 7 pages.
2425. Distribution of health services in the structure of State government. Chapter VII—Maternity-child health activities by State agencies. By Joseph W. Mountin and Evelyn Flook. November 27, 1942. 31 pages.
2426. Superficial vascularization of the cornea. The result of riboflavin therapy. By Harold R. Sandstead. November 27, 1942. 5 pages.
2427. The incidence of cancer in Philadelphia, Pa., 1938. By Herbert J. Sommers. December 4, 1942. 15 pages.
2428. Changes in mortality rates, 1930 to 1940. By Harold F. Dorn. December 4, 1942. 11 pages.
2429. *Ixodes baergi*, a new species of tick from Arkansas (Acarina: Ixodidae). By R. A. Cooley and Glen M. Kohls. December 4, 1942. 4 pages; 2 plates.
2430. Lesions in rats given sulfaguanidine in purified diets. By L. L. Ashburn, Floyd S. Daft, K. M. Endicott, and W. H. Sebrell. December 11, 1942. 8 pages; 2 plates.
2431. Antibacterial action of several sulfonamide compounds on *Hemophilus influenzae* Type b. By Margaret Pittman. December 11, 1942. 11 pages.
2432. Experimental chemotherapy of burns and shock. I. Methods. II. Effects of local therapy upon mortality from shock. By Sanford M. Rosenthal. December 18, 1942. 13 pages.
2433. Observations on the epidemiology of leprosy. By G. W. McCoy. December 18, 1942. 9 pages.
2434. Location and movement of physicians, 1923 and 1938—Effect of local factors upon location. By Joseph W. Mountin, Elliott H. Pennell, and Virginia Nicolay. December 18, 1942. 9 pages.

2435. *Ornithodoros* ticks as a medium for the transportation of disease agents. By R. R. Parker. December 25, 1942. 4 pages.
2436. Variations in rat infestation on vessels. By Robert Olesen and G. C. Sherrard. December 25, 1942. 5 pages.
2437. The incidence of cancer in Denver, Colorado, 1939. By Herbert J. Sommers. December 25, 1942. 16 pages.

Supplements to the Public Health Reports

167. New methods for photographing the anterior eye. By William E. Poel and Kenneth M. Hayden. 1942. 4 pages; 1 color plate; 2 halftones.
168. Mental health in later maturity. Papers presented at a conference held in Washington, D. C., May 23-24, 1941. 1942. 147 pages.

Public Health Bulletins

278. A medical study of men exposed to measured amounts of carbon monoxide in the Holland Tunnel for 13 years. By Rudolph F. Sievers, Thomas I. Edwards, and Arthur L. Murray. 1942. 74 pages.
279. The toxicity and potential dangers of toluene, with special reference to its maximal permissible concentration. By W. F. von Oettingen, P. A. Neal, D. D. Donahue, J. L. Svirebely, H. D. Baernstein, A. R. Monaco, P. J. Valaer, and J. L. Mitchell. 1942. 50 pages.

National Institute of Health Bulletins

179. The anopheline mosquitoes of the Caribbean region. By W. H. W. Komp. 1942. 195 pages; 155 figures.
180. Manual for the microscopical diagnosis of malaria in man. By Aimee Wilcox. 1942. 39 pages; 13 plates.

Workers Health Series

7. Night shift. 1942. 6 pages.
8. Save your skin. 1942. 6 pages.
9. Willie's victory torch. 1942. 6 pages.

Workers Health Posters

1. Clean dry clothes keep him on the job.
2. Dental care keeps him on the job.
3. Fun off the job keeps him on the job.
4. Healthy skin keeps him on the job.
5. His mask keeps him on the job.
6. Plenty of sleep keeps him on the job.
7. Regular check-ups keep him on the job.
8. Safety first keeps him on the job.
9. Foods that count keep him on the job.

Reprints from Venereal Disease Information

178. Washington serology conference. Preliminary reports. Vol. 23, May 1942. 34 pages.
180. Modification of the horse plasma hemoglobin agar for primary culture of the gonococcus. Usefulness of Nile blue A in this medium. By Lenore R. Peizer and Gustav I. Steffen. Vol. 23, June 1942. 3 pages.
181. Delayed planting of gonococcus cultures. Preliminary reports. By Oscar F. Cox, Mary McDermott, and J. Howard Mueller. Vol. 23, June 1942. 2 pages.

182. Sulfadiazine in the treatment of gonorrhea. By Richard W. Satterthwaite, Justina H. Hill, and Virginia Huffer. Vol. 23, July 1942. 6 pages.
183. Uncomplicated syphilitic aortitis—Can it be diagnosed? By R. H. Kampmeier, R. M. Glass, and F. E. Fleming. Vol. 23, July 1942. 9 pages.
184. Survival time of the gonococcus in urine from male patients with urethritis. By Samuel D. Allison, Ruth Charles, and Charles M. Carpenter. Vol. 23, August 1942. 4 pages.
185. Civilians, soldiers, and the chemical prophylaxis of venereal diseases. By Russell Frantz. Vol. 23, August 1942. 3 pages.
186. Study of delinquent syphilis patients. In the Memphis-Shelby County Venereal Disease Control Program. By Henry Packer, G. F. McGinnes, and Ruth R. Puffer. Vol. 23, August 1942. 10 pages.
187. Field study of contacts of syphilis cases. By Henry Packer, G. F. McGinnes, and Ruth R. Puffer. Vol. 23, September 1942. 8 pages.
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190. Symptomatic neurosyphilis. By Robert R. Keirland, Paul A. O'Leary, and Eleanor Vandoren. Vol. 23, October 1942. 18 pages.
191. Law enforcement in venereal disease control from the standpoint of the health officer. By John H. Stokes. Vol. 23, November 1942. 10 pages.
192. Treatment with artificial fever combined with chemotherapy. By H. Worley Kendell, Donald L. Rose, and Walter M. Simpson. Vol. 23, November 1942. 14 pages.
193. Comparison of case finding methods in a syphilis control program. By Henry Packer. Vol. 23, December 1942. 10 pages.

Supplement to Venereal Disease Information

18. Acetarsones in the treatment of congenital syphilis. A review of the literature. By Josephine Hinrichsen. 92 pages.

Unnumbered Publications

- Index to Public Health Reports, volume 57, part 1, January–June 1942. 17 pages.
- Index to Journal of the National Cancer Institute, volume 2, August 1941–June 1942. 12 pages.
- Quarantine laws and regulations of the United States and international treaties applicable to international aerial navigation. 1942. 37 pages.
- Folder "About Faces." (Description of a film of the U. S. Public Health Service on dental hygiene.)
- The private physician today in the control of the venereal diseases. By F. H. Lahey. Reprinted from Venereal Disease Information, Vol. 23, March 1942. 10 pages.

THE SMALLPOX OUTBREAK IN PENNSYLVANIA

Dr. A. H. Stewart, Secretary of Health of Pennsylvania, has supplied the following interesting information regarding the recent outbreak of smallpox in that State during December 1942 and January 1943.

The first patient, the source of the epidemic, left her home in Ohio for Dover, Del., on November 4. She remained in Dover until November 10, when she came to Lancaster County, Pa. On November 15, 11 days after leaving Ohio, the smallpox prodrome appeared, but she was ill enough to be confined to bed and the house for only the two following days, November 16 and 17. On November 23 she left Lancaster County to attend a wedding in Mifflin County, and on November 27 she returned to her home in Ohio.

Secondary cases of smallpox occurred simultaneously in Lancaster and Mifflin Counties, the earliest dates of onset being December 2 and 6, giving incubation periods of 9 and 13 days, respectively. As the infection was not recognized in either Lancaster or Mifflin County until December 23 (in Mifflin County), the State health authorities found themselves confronted at once with both secondary and tertiary cases.

Reports to January 19, 1943, showed a total of 63 cases in the State, as follows: 43 cases in Mifflin County (last date of onset, January 3), 16 cases in Lancaster County (last date of onset, January 8), and 4 cases in Chester County (last date of onset, December 29, 1942). Of the 63 cases, there are breaks in the case-to-case chain in only 4 instances. There were 2 extra-State cases, 1 case in New Jersey referable to Lancaster County, and 1 case in Maryland referable to Mifflin County. The disease was of mild type; no deaths were reported.

But for the 13 unvaccinated preschool children, all of the cases in Pennsylvania occurred in individuals past middle age who, with the exception of 5, had never been vaccinated. These five developed varioloid and gave histories of vaccination in 1892, 1893, 1894, 1896, and 1906. Dr. Stewart pertinently points out that these facts bear testimony to the value of the school vaccination law in giving protection to two generations. In two populous areas of the State several persons with smallpox were at large, mingling with other persons, for 3 weeks before the presence of the infection was known and control measures could be applied.

INCIDENCE OF HOSPITALIZATION, JANUARY 1943

Through the cooperation of the Hospital Service Plan Commission of the American Hospital Association, data on hospital admissions among about 8,000,000 members of Blue Cross Hospital Service Plans are presented monthly. These plans provide prepaid hospital service. The data cover about 60 hospital service plans scattered throughout the country, mostly in large cities.

Item	January	
	1943	1942
1. Number of plans supplying data.....	58	56
2. Number of persons eligible for hospital care.....	8,545,423	7,823,616
3. Number of persons admitted for hospital care.....	71,777	67,313
4. Incidence per 1,000 persons, annual rate, during current month (daily rate \times 365).....	111.1	101.2
5. Incidence per 1,000 persons, annual rate for the 12 months ending January 31.....	107.6	106.4

DEATHS DURING WEEK ENDED FEBRUARY 13, 1943

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Feb. 13, 1943	Correspond- ing week, 1942
Data for 80 large cities of the United States :		
Total deaths.....	9,697	8,907
Average for 3 prior years.....	9,484	
Total deaths, first 6 weeks of year.....	60,654	55,638
Deaths under 1 year of age.....	694	561
Average for 3 prior years.....	527	
Deaths under 1 year of age, first 6 weeks of year.....	4,327	3,374
Data from industrial insurance companies :		
Policies in force.....	65,348,380	64,906,201
Number of death claims.....	10,847	9,807
Death claims per 1,000 policies in force, annual rate.....	8.7	7.9
Death claims per 1,000 policies, first 6 weeks of year, annual rate.....	10.7	10.0

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED FEBRUARY 20, 1943

Summary

Reports for the current week show that of the 9 common communicable diseases included in the following tables the incidence of only meningococcus meningitis is above either the respective 5-year (1938-42) median or the number of cases reported for the corresponding week last year. Decreases from the preceding week's figures are reported for all of these diseases except measles, scarlet fever, smallpox, and typhoid fever. The cumulative figures for the first 7 weeks of the year are below the corresponding medians for all except meningococcus meningitis and poliomyelitis, and are below last year's figures for the period for all except meningococcus meningitis, poliomyelitis, scarlet fever, and smallpox.

There were 398 cases of meningococcus meningitis reported for the week, as compared with 403¹ for the preceding week and with a median of 69. Decreases were shown in 5 of the 9 geographic divisions, but there were increases in the New England group of States (from 49 to 60), the East North Central (26 to 46), the West North Central (19 to 22), and the Pacific (59 to 64). Of the cumulative total of 2,456 cases reported for the first 7 weeks of the year, 21 percent occurred in the South Atlantic States, 19.5 percent in the Middle Atlantic, 15 percent in the Pacific, and 13 percent in the New England. In all sections except the East South Central group the cumulative total is higher than for the corresponding 7-week period in any of the past 6 years. In that group the figure for the current period, 146 cases, was exceeded in 1937 and 1938.

Of the total number of 15,482 cases of measles reported for the week, 6,348 occurred in the Middle Atlantic States; and of 33 cases of smallpox, 13 were in Arkansas, 9 in Indiana, and 5 in Texas.

Included among other reports for the week were the following: Dysentery, 247 cases; infectious encephalitis, 9; tularemia, 9; endemic typhus fever, 37.

Deaths in 87 major cities aggregated 10,267 for the current week, as compared with 9,732 for the preceding week. The cumulative figure for the first 7 weeks of the year is 70,639 as compared with 64,661 for the same period in 1942.

¹ Exclusive of 43 delayed reports from Virginia.

Telegraphic morbidity reports from State health officers for the week ended February 20, 1943, and comparison with corresponding week of 1942 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none were reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1938-42	Week ended—		Median 1938-42	Week ended—		Median 1938-42	Week ended—		Median 1938-42
	Feb. 20, 1943	Feb. 21, 1942		Feb. 20, 1943	Feb. 21, 1942		Feb. 20, 1943	Feb. 21, 1942		Feb. 20, 1943	Feb. 21, 1942	
NEW ENG.												
Maine.....	0	1	1	1	4	8	6	277	122	11	0	0
New Hampshire.....	0	0	0	—	—	—	10	0	7	1	0	0
Vermont.....	0	0	0	—	—	—	275	0	7	0	0	0
Massachusetts.....	0	3	3	—	—	—	760	450	450	15	4	2
Rhode Island.....	0	1	1	—	—	—	8	94	14	28	0	0
Connecticut.....	0	0	0	4	1	10	320	282	108	5	1	0
MID. ATL.												
New York.....	15	30	26	15	17	143	1,772	635	1,048	42	6	6
New Jersey.....	6	8	12	23	23	30	1,078	166	166	29	5	1
Pennsylvania.....	9	17	33	4	—	—	3,498	1,174	1,174	21	7	5
E. NO. CEN.												
Ohio.....	10	7	19	11	28	28	154	190	190	6	3	3
Indiana.....	4	3	17	36	31	113	175	43	43	7	0	0
Illinois.....	9	20	23	5	19	127	506	226	226	16	0	0
Michigan ¹	4	6	6	1	2	31	205	249	424	5	0	1
Wisconsin.....	3	0	1	56	28	70	946	411	769	12	0	0
W. NO. CEN.												
Minnesota.....	2	4	4	—	1	3	32	680	366	3	0	0
Iowa.....	3	4	7	2	3	27	148	200	174	1	0	0
Missouri.....	2	2	8	—	2	59	228	73	73	6	1	1
North Dakota.....	1	1	1	6	22	20	28	59	15	0	0	0
South Dakota.....	12	0	0	—	1	3	66	5	5	0	0	0
Nebraska.....	0	1	5	39	3	3	258	32	32	2	0	0
Kansas.....	10	1	5	14	17	17	333	251	251	10	0	0
SO. ATL.												
Delaware.....	0	2	2	6	—	—	23	6	6	2	0	0
Maryland ¹	2	1	3	8	9	131	37	433	60	15	5	3
Dist. of Col.....	1	2	3	4	1	18	80	34	10	2	1	0
Virginia.....	10	7	15	440	427	1,338	378	76	176	29	6	4
West Virginia.....	5	5	6	10	53	80	11	525	112	0	0	3
North Carolina.....	6	16	17	35	59	71	76	1,585	866	14	2	0
South Carolina.....	4	4	4	643	735	972	36	126	64	6	0	1
Georgia.....	2	5	7	205	145	145	52	268	268	1	1	1
Florida.....	1	7	5	5	4	5	23	116	58	3	2	0
E. SO. CEN.												
Kentucky.....	5	5	9	10	—	136	622	54	106	4	0	2
Tennessee.....	9	11	10	76	79	101	125	113	119	1	1	2
Alabama.....	7	12	10	188	453	453	17	95	148	4	0	3
Mississippi ²	6	7	6	—	—	—	—	—	—	4	2	2
W. SO. CEN.												
Arkansas.....	5	5	8	145	458	458	171	365	107	0	0	1
Louisiana.....	6	3	6	21	5	15	126	57	11	4	1	1
Oklahoma.....	2	10	8	26	227	227	30	404	34	1	0	0
Texas.....	50	42	42	1,639	1,790	1,790	379	1,881	304	13	30	3
MOUNTAIN												
Montana.....	6	8	3	8	1	4	248	168	38	0	0	0
Idaho.....	17	1	1	—	—	—	205	38	26	3	0	0
Wyoming.....	0	0	0	33	209	5	43	57	20	0	0	0
Colorado.....	7	4	13	84	161	78	519	206	106	0	2	0
New Mexico.....	3	0	1	1	2	2	21	59	59	0	0	0
Arizona.....	0	5	5	144	166	166	21	202	20	1	0	0
Utah ²	1	0	0	57	7	10	393	55	81	7	0	0
Nevada.....	0	0	—	—	—	—	14	97	—	0	0	—
PACIFIC												
Washington.....	3	4	2	8	3	3	1,189	54	93	11	0	1
Oregon.....	4	3	3	28	29	42	306	137	137	22	0	0
California.....	15	9	20	103	83	83	383	3,161	374	31	4	2
Total.....	267	287	398	4,134	5,308	6,895	16,334	15,869	15,869	398	84	69
7 weeks.....	2,186	2,396	3,026	31,258	33,080	33,080	78,682	80,610	80,610	2,456	416	386

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended February 20 1943, and comparison with corresponding week of 1942 and 5-year median—Con'

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever		
	Week ended—		Median 1938-42	Week ended—		Median 1938-42	Week ended—		Median 1938-42	Week ended—		Median 1938-42
	Feb. 20, 1943	Feb. 21, 1942		Feb. 20, 1943	Feb. 21, 1942		Feb. 20, 1943	Feb. 21, 1942		Feb. 20, 1943	Feb. 21, 1942	
NEW ENG.												
Maine.....	0	0	0	0	19	19	0	0	0	1	0	0
New Hampshire.....	0	0	0	8	5	4	0	0	0	0	1	0
Vermont.....	0	0	0	13	15	12	0	0	0	0	1	0
Massachusetts.....	0	0	0	605	373	222	0	0	0	2	3	2
Rhode Island.....	0	0	0	14	14	14	0	0	0	0	0	0
Connecticut.....	0	0	0	71	45	92	0	0	0	0	0	0
MID. ATL.												
New York.....	1	5	1	507	458	648	0	0	0	2	6	4
New Jersey.....	0	2	1	154	146	166	0	0	0	0	0	0
Pennsylvania.....	0	0	0	303	447	447	0	0	0	5	8	3
E. NO. CEN.												
Ohio.....	0	2	0	259	370	370	1	0	0	3	4	2
Indiana.....	0	1	0	83	109	179	9	1	1	0	0	3
Illinois.....	1	1	1	272	247	510	0	0	7	2	1	3
Michigan 1.....	0	1	1	105	300	300	0	4	4	3	1	2
Wisconsin.....	0	0	0	294	219	219	0	0	4	1	1	0
W. NO. CEN.												
Minnesota.....	0	0	0	62	82	109	0	0	8	0	0	0
Iowa.....	0	0	0	97	47	75	1	0	6	0	0	0
Missouri.....	0	0	0	94	53	87	1	1	6	0	4	1
North Dakota.....	0	0	0	12	22	22	0	0	0	0	1	1
South Dakota.....	0	0	0	16	41	21	1	2	2	0	0	0
Nebraska.....	0	0	0	45	31	31	0	0	0	2	0	0
Kansas.....	0	0	0	89	96	96	0	1	5	1	1	1
SO. ATL.												
Delaware.....	0	1	0	4	59	16	0	0	0	1	0	0
Maryland 1.....	0	0	0	80	78	65	0	0	0	1	1	1
Dist. of Col.....	0	0	0	24	13	20	0	0	0	0	0	1
Virginia.....	0	0	0	33	25	35	0	0	0	8	2	2
West Virginia.....	0	0	1	28	37	53	0	0	0	0	1	2
North Carolina.....	1	2	2	47	68	55	0	1	0	3	0	1
South Carolina.....	0	0	0	4	11	11	0	0	0	0	2	1
Georgia.....	0	0	0	21	16	18	0	0	0	1	24	4
Florida.....	1	0	0	9	3	11	0	0	0	0	4	2
E. SO. CEN.												
Kentucky.....	1	1	2	62	81	90	0	1	1	3	0	1
Tennessee.....	0	1	1	80	43	47	0	4	2	0	5	3
Alabama.....	1	0	0	8	17	17	0	1	0	2	1	1
Mississippi 1.....	1	2	0	9	12	6	1	2	2	2	3	3
W. SO. CEN.												
Arkansas.....	0	0	0	9	9	9	13	0	2	2	2	2
Louisiana.....	0	1	1	6	5	7	0	1	0	8	3	3
Oklahoma.....	0	0	0	12	17	30	0	0	1	1	2	2
Texas.....	2	0	2	83	68	68	5	22	19	4	0	7
MOUNTAIN												
Montana.....	0	0	0	8	37	32	1	0	0	1	0	0
Idaho.....	1	1	0	4	4	12	0	0	0	0	0	0
Wyoming.....	0	1	0	29	11	9	0	0	0	0	0	0
Colorado.....	0	1	0	79	58	37	0	0	7	0	0	0
New Mexico.....	0	0	0	4	7	10	0	0	0	1	0	0
Arizona.....	1	0	0	11	8	8	0	0	0	0	0	0
Utah 1.....	1	0	0	77	48	33	0	0	0	0	0	0
Nevada.....	0	0	0	0	1	0	0	0	0	0	0	0
PACIFIC												
Washington.....	1	0	0	36	57	57	0	0	0	0	0	0
Oregon.....	0	0	0	15	7	18	0	0	0	1	0	0
California.....	8	3	3	153	130	162	0	0	0	3	5	3
Total.....	21	26	26	4,038	4,069	4,904	33	41	55	64	87	87
7 weeks.....	215	180	180	26,048	25,926	30,855	216	154	508	356	580	580

See footnotes at end of table.

Telegraphic morbidity reports from State health officers for the week ended February 20, 1943, and comparison with corresponding week of 1942 and 5-year median—Con.

Division and State	Whooping cough			Week ended Feb. 20, 1943									
	Week ended—		Med- dian, 1938-42	An- thrax	Dysentery			En- ceph- alitis, infec- tious	Lep- rosy	Rocky Mt. spot- ted fever	Tula- remia	Ty- phus fever	
	Feb. 20, 1943	Feb. 21, 1942			Ame- ble	Bacil- lary	Un- spec- ified						
NEW ENG.													
Maine.....	48	48	39	0	0	0	0	0	0	0	0	0	
New Hampshire.....	0	4	3	0	0	0	0	0	0	0	0	0	
Vermont.....	27	34	34	0	0	0	0	0	0	0	0	0	
Massachusetts.....	164	204	204	0	0	0	0	1	0	0	0	0	
Rhode Island.....	5	67	37	0	0	0	0	0	0	0	0	0	
Connecticut.....	26	82	56	0	0	3	0	0	0	0	0	0	
MID. ATL.													
New York.....	350	504	504	0	12	31	0	1	0	0	0	0	
New Jersey.....	203	207	200	0	1	0	0	0	0	0	0	0	
Pennsylvania.....	273	209	361	0	0	0	0	0	0	0	0	0	
E. NO. CEN.													
Ohio.....	180	266	202	0	1	0	1	0	0	0	0	0	
Indiana.....	22	19	33	0	0	0	0	0	0	0	0	0	
Illinois.....	173	131	106	0	0	0	0	0	0	0	0	0	
Michigan ¹	264	234	234	0	0	2	0	0	0	0	0	0	
Wisconsin.....	212	252	137	0	0	0	0	1	0	0	1	0	
W. NO. CEN.													
Minnesota.....	83	38	38	0	0	1	0	0	0	0	0	0	
Iowa.....	28	6	14	0	0	0	0	0	0	0	0	0	
Missouri.....	2	4	28	0	0	0	0	1	0	0	0	0	
North Dakota.....	5	15	7	0	0	0	0	0	0	0	0	0	
South Dakota.....	5	6	6	0	0	0	0	0	0	0	0	0	
Nebraska.....	14	4	5	0	0	0	0	0	0	0	0	0	
Kansas.....	63	46	46	0	0	0	0	0	0	0	0	0	
SO. ATL.													
Delaware.....	9	2	8	0	0	0	0	0	0	0	0	0	
Maryland ¹	85	47	64	0	0	0	0	0	0	0	0	0	
Dist. of Col.....	10	32	18	0	0	0	0	0	0	0	0	0	
Virginia.....	56	70	73	0	0	0	12	0	0	0	1	0	
West Virginia.....	40	124	34	0	0	0	0	0	0	0	0	0	
North Carolina.....	131	211	251	0	1	0	0	0	0	0	0	7	
South Carolina.....	29	54	68	0	0	2	0	0	0	0	0	0	
Georgia.....	40	18	27	0	0	2	0	0	0	0	1	6	
Florida.....	29	19	9	0	1	0	0	0	0	0	0	2	
E. SO. CEN.													
Kentucky.....	50	86	86	0	0	0	0	0	0	0	0	0	
Tennessee.....	73	37	37	0	0	0	1	0	0	0	0	0	
Alabama.....	27	5	25	0	0	0	0	0	0	0	2	6	
Mississippi ¹				0	0	0	0	0	0	0	0	0	
W. SO. CEN.													
Arkansas.....	35	7	8	0	0	1	0	0	0	0	2	0	
Louisiana.....	12	3	11	0	3	1	0	0	0	0	1	2	
Oklahoma.....	15	9	9	0	0	0	0	0	0	0	0	0	
Texas.....	412	162	162	0	5	144	0	4	0	0	1	13	
MOUNTAIN													
Montana.....	49	15	5	0	0	0	0	0	0	0	0	0	
Idaho.....	5	10	9	0	0	0	0	0	0	0	0	0	
Wyoming.....	1	5	5	0	0	0	0	0	0	0	0	0	
Colorado.....	14	33	33	0	0	0	0	0	0	0	0	0	
New Mexico.....	19	22	22	0	0	0	0	0	0	0	0	0	
Arizona.....	16	81	19	0	0	0	7	0	0	0	0	0	
Utah ¹	17	19	30	0	0	0	0	0	0	0	0	0	
Nevada.....	0	13		0	0	0	0	0	0	0	0	0	
PACIFIC													
Washington.....	44	92	73	0	0	0	0	0	0	0	0	0	
Oregon.....	5	19	19	0	0	0	0	0	0	0	0	0	
California.....	267	185	185	0	1	14	0	1	0	0	0	1	
Total.....	3, 637	3, 750	3, 750	0	25	201	21	9	0	0	9	37	
7 weeks.....	27, 046	29, 267	29, 267										

¹ New York City only.

² Period ended earlier than Saturday.

WEEKLY REPORTS FROM CITIES

City reports for week ended February 6, 1943

This table lists the reports from 87 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Polymycolitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
Atlanta, Ga	0	0	33	1	7	1	5	0	7	0	0	4
Baltimore, Md	1	0	5	1	12	9	16	0	40	0	1	41
Barre, Vt	0	0	0	0	0	0	0	0	0	0	0	0
Billings, Mont	0	0	1	0	0	0	3	0	0	0	0	1
Birmingham, Ala	2	0	5	1	1	0	6	0	2	0	0	0
Boise, Idaho	0	0	0	0	0	0	0	0	0	0	0	0
Boston, Mass	1	0	0	0	193	4	18	1	110	0	2	27
Bridgeport, Conn	0	0	1	0	9	0	1	0	11	0	0	3
Brunswick, Ga	0	0	0	0	0	0	0	0	0	0	0	0
Buffalo, N. Y	0	0	0	0	58	0	7	0	7	0	0	19
Camden, N. J	2	0	0	0	60	1	4	0	3	0	0	1
Charleston, S. C	1	0	32	1	0	1	0	0	1	0	0	1
Charleston, W. Va	1	0	1	0	0	0	0	0	0	0	0	0
Chicago, Ill	4	0	5	3	188	4	45	0	77	0	0	83
Cincinnati, Ohio	0	0	0	0	23	0	8	0	37	0	0	3
Cleveland, Ohio	1	0	10	0	7	5	7	0	34	0	0	67
Columbus, Ohio	0	0	1	1	3	0	11	0	12	0	0	2
Concord, N. H	0	0	0	0	0	0	0	0	3	0	0	0
Cumberland, Md	0	0	0	0	0	0	1	0	0	0	0	1
Dallas, Tex	4	0	0	0	0	0	3	0	2	0	0	12
Denver, Colo	8	0	30	0	175	0	10	0	10	0	0	10
Duluth, Minn	0	0	0	0	0	0	3	0	3	0	0	4
Fall River, Mass	2	0	0	1	1	1	4	0	5	0	0	17
Fargo, N. Dak	0	0	0	0	3	0	1	0	0	0	0	1
Flint, Mich	0	0	0	0	3	0	3	0	12	0	0	8
Fort Wayne, Ind	0	0	0	0	0	0	4	0	1	0	0	0
Frederick, Md	0	0	0	0	0	0	0	0	0	0	0	0
Galveston, Tex	0	0	1	5	0	0	0	1	0	0	0	0
Grand Rapids, Mich	0	0	1	2	0	1	0	1	0	0	0	10
Great Falls, Mont	0	0	0	0	28	0	0	0	1	0	0	14
Hartford, Conn	1	0	0	0	14	0	2	0	1	0	0	1
Helena, Mont	0	0	0	0	22	0	0	0	1	0	0	0
Houston, Tex	4	0	1	1	1	0	5	0	2	0	0	8
Indianapolis, Ind	1	0	0	0	51	2	13	0	22	0	0	12
Kansas City, Mo	2	0	0	3	16	0	17	0	43	0	0	0
Kenosha, Wis	0	0	0	0	1	0	0	0	2	0	0	1
Little Rock, Ark	0	0	1	0	0	0	6	0	0	0	0	2
Los Angeles, Calif	4	0	25	6	39	2	13	2	43	0	3	29
Lynchburg, Va	1	0	0	0	0	0	2	0	0	0	0	5
Memphis, Tenn	0	0	5	2	12	2	2	0	4	0	0	6
Milwaukee, Wis	0	0	1	1	192	2	7	0	87	0	0	54
Minneapolis, Minn	0	0	0	1	3	2	8	0	20	0	0	13
Missoula, Mont	0	0	0	0	0	0	0	0	0	0	0	0
Mobile, Ala	0	0	0	1	1	0	3	0	2	0	0	0
Nashville, Tenn	0	0	0	1	91	0	4	0	5	0	0	3
Newark, N. J	0	0	0	1	7	0	10	0	12	0	0	8
New Haven, Conn	0	0	0	0	0	0	1	0	0	0	0	7
New Orleans, La	2	0	7	3	2	1	11	0	11	0	0	2
New York, N. Y	6	2	12	3	133	30	88	2	298	0	3	65
Omaha, Nebr	0	0	0	0	0	0	3	0	8	1	0	2
Philadelphia, Pa	1	0	2	0	1,466	7	38	0	88	0	1	68
Pittsburgh, Pa	1	1	3	3	0	3	18	0	16	0	0	20
Portland, Maine	0	0	0	0	2	5	3	0	7	0	0	14
Providence, R. I	5	0	0	0	9	6	7	0	6	0	0	8
Pueblo, Colo	0	0	0	0	1	0	1	0	2	0	0	1
Racine, Wis	0	0	1	1	17	0	0	0	24	0	0	2
Raleigh, N. C	0	0	0	0	0	0	1	0	0	0	0	11
Reading, Pa	0	0	1	0	144	0	1	0	0	0	0	4
Richmond, Va	1	0	1	1	4	5	6	1	2	0	0	3

City reports for week ended February 6, 1943—Continued

	Diphtheria cases	Etiophyllitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Pollomycellitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
Roanoke, Va.	0	0	—	0	1	0	0	0	1	0	0	0
Rochester, N. Y.	0	0	—	0	11	0	6	0	5	0	0	20
Sacramento, Calif.	7	0	—	0	13	1	5	0	6	0	0	5
Saint Joseph, Mo.	0	0	—	0	0	0	5	0	0	0	0	0
Saint Louis, Mo.	0	0	2	0	17	6	23	0	22	0	0	13
Saint Paul, Minn.	0	0	—	0	2	1	6	0	4	0	0	51
Salt Lake City, Utah.	0	0	—	1	73	1	6	0	23	0	0	9
San Antonio, Tex.	0	0	—	0	2	0	7	1	3	0	0	0
San Francisco, Calif.	0	0	6	0	18	6	10	0	16	0	0	9
Savannah, Ga.	0	0	23	0	0	1	3	0	1	0	0	2
Seattle, Wash.	1	0	—	1	61	4	10	0	1	0	0	7
Shreveport, La.	0	0	—	0	0	0	7	0	1	0	0	0
South Bend, Ind.	0	0	—	0	6	0	0	0	0	4	0	0
Spokane, Wash.	0	0	—	0	150	1	3	0	2	0	0	4
Springfield, Mass.	0	0	—	0	2	0	4	0	77	0	0	1
Superior, Wis.	0	0	—	0	1	0	0	0	0	0	0	4
Syracuse, N. Y.	0	0	—	0	10	3	6	0	9	0	0	30
Tacoma, Wash.	0	0	—	0	59	0	0	0	1	0	0	0
Tampa, Fla.	0	0	—	0	1	0	5	0	1	0	0	0
Terre Haute, Ind.	0	0	—	0	0	0	0	0	0	0	0	0
Topeka, Kans.	0	0	—	0	13	0	1	0	3	0	0	2
Washington, D. C.	2	0	2	2	30	2	18	0	21	0	0	24
Wheeling, W. Va.	0	0	—	0	0	0	2	0	0	0	0	3
Wichita, Kans.	0	0	—	0	14	0	5	2	2	0	0	5
Wilmington, Del.	0	0	—	0	1	0	7	0	0	0	0	4
Wilmington, N. C.	0	0	—	0	3	0	0	0	1	0	0	27
Winston-Salem, N. C.	0	0	—	0	0	0	0	0	3	0	0	18
Worcester, Mass.	0	0	—	0	47	0	8	0	5	0	0	3
Total	66	3	216	42	3,581	119	579	9	1,294	5	10	919
Corresponding week 1942	57	—	303	40	2,484	—	466	—	1,033	—	9	1,137
Average, 1938-42 ..	108	—	1,430	100	3,655	—	605	—	1,265	22	17	1,013

Dysentery, amebic.—Cases: Los Angeles, 1; New York, 2; Philadelphia, 1; St. Louis, 1.

Dysentery, bacillary.—Cases: Buffalo, 3; Chicago, 2; Los Angeles, 2; New York, 9.

Dysentery, unspecified.—Cases: San Antonio, 1.

Tularemia.—Cases: New Orleans, 1; St. Louis, 1.

Typhus fever.—Cases: Atlanta, 1; Houston, 1; New York, 1; Savannah, 2; Tampa, 1.

¹3-year average, 1940-42.

²5-year median.

TERRITORIES AND POSSESSIONS

Hawaii Territory

Plague (rodent).—During the week ended January 30, 1943, rats proved positive for plague were reported in Hawaii Territory as follows: Four rats in Paauhau area, 1 in Kapulena area, 1 in Honokaa area, all in Hamakua District, Island of Hawaii, T. H.

Panama Canal Zone

Notifiable diseases—December 1942.—During the month of December 1942, certain notifiable diseases were reported in the Panama Canal Zone, and terminal cities, as follows:

Disease	Panama		Colon		Canal Zone		Outside the Zone and terminal cities		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Chickenpox.....	15		4		10		4		33	
Diphtheria.....	12	1			10		1		23	1
Dysentery (amebic).....	1						2		3	
Dysentery (bacillary).....	1				2	1	2	2	5	3
Leprosy.....			1						1	
Malaria ¹	34		9		434		332	2	809	2
Measles.....	2				12		1		15	
Meningitis, meningococcus.....					1		1		2	
Mumps.....	17				7		1		25	
Paratyphoid fever.....					4		4		8	
Pneumonia.....		16		1	46	3		1	46	21
Relapsing fever.....							1		1	
Tuberculosis.....		23		5	10			6	10	34
Typhoid fever.....			1				3		4	

¹ Includes 7 carriers.

² Includes 182 recurrent cases.

³ Reported in the Canal Zone only.

FOREIGN REPORTS

ARUBA

Diphtheria and typhoid fever.—A report dated February 5, 1943, states that up to January 30, 1943, 3 cases of diphtheria with 1 death and 5 cases of typhoid fever with 1 death were reported in the island of Aruba, West Indies.

BRITISH HONDURAS

Notifiable diseases—Year 1941.—During the year 1941, cases of certain notifiable diseases were reported in British Honduras as follows:

Disease	Cases	Disease	Cases
Cancer.....	108	Erysipelas.....	7
Cerebrospinal meningitis.....	4	Malaria.....	1,200
Chickenpox.....	12	Measles.....	29
Diabetes.....	20	Pneumonia.....	90
Diphtheria.....	4	Tetanus.....	10
Dysentery.....	473	Tuberculosis.....	113

Vital statistics—Year 1941.—Following are vital statistics for British Honduras for the year 1941:

Births per 1,000 population.....	34.9
Number of deaths.....	1,030
Deaths per 1,000 population.....	16.8
Infant mortality per 1,000 population.....	243.5

CANADA

Provinces—Communicable diseases—Week ended January 23, 1943.—During the week ended January 23, 1943, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox.....		20		153	414	39	41	22	43	732
Diphtheria.....	1	20	1	25	1	4		2	1	55
Dysentery (bacillary).....				5						5
Encephalitis, infectious.....					1					1
German measles.....				3	9		2	3	5	22
Influenza.....		25	6	15	3	17			14	80
Measles.....		2	2	119	83	28	68	2	28	342
Meningitis, meningococcus.....					1	1		1	1	4
Mumps.....	1	144	2	80	1,064	135	73	84	115	1,068
Poliomyelitis.....					2					2
Scarlet fever.....		8	8	156	106	10	16	20	22	346
Tuberculosis (all forms).....	2	2	9	98	63	6		31	16	227
Typhoid and paratyphoid fever.....				11						11
Undulant fever.....					2					2
Whooping cough.....		5		101	134	40	10	26	10	326

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Health, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C indicates cases]

NOTE.—Since many of the figures in the following tables are from weekly reports, the accumulated totals are for approximate dates.

Place	January- November 1942	Decem- ber 1942	January 1943—week ended—				
			2	9	16	23	30
ASIA							
Ceylon.....	C	103					
China:							
Kunming (Yunnanfu).....	C	1 804					
Shanghai.....	C	844					
India.....	C	140,099	4,175	471			
Calcutta.....	C	2,222	109	59			
Chittagong.....	C	55					
Madras.....	C	20	64	131			
Rangoon.....	C	1					
Visagapatam.....	C	2	11	2			
India (French).....	C	14					
Pondichery.....	C	1					

¹ For the period May 12 to July 4, 1942.

PLAGUE

[C indicates cases; P, present]

AFRICA							
Basutoland.....	C	10					
Belgian Congo.....	C	3	1				
British East Africa:							
Kenya.....	C	724	7	2	4	1	
Nairobi.....	C	67					
Uganda.....	C	342	4				
Egypt: Port Said.....	C	3					
Madagascar.....	C	95	4				
Morocco.....	C	355	6		3		
Rhodesia (Northern).....	C	2	13				
Senegal.....	C	16					
Union of South Africa.....	C	77	17	1			
ASIA							
China: ¹							
India.....	C	1,143	44	16			
Indochina (French).....	C	81					
Palestine:							
Haifa.....	C	5					
Jaffa.....	C	1	6	2	2		1
EUROPE							
Portugal: Azores Islands.....	C	1					
NORTH AMERICA							
Canada: Alberta Province— Plague-infected fleas.....		P					
SOUTH AMERICA							
Argentina: Cordoba Province.....	C	26					
Brazil:							
Alagoas State.....	C	3					
Pernambuco State.....	C	6					
Chile: Valparaiso.....	C	1					
Ecuador: Loja Province.....	C	3	1				
Peru:							
Ancash Department.....	C	6					
Lambayeque Department.....	C	3					
Libertad Department.....	C	7					
Salaverry—Plague-infected rats.....	P						
Lima Department.....	C	56					
Lima.....	C	18					
Piura Department.....	C	21					
OCEANIA							
Hawaii Territory: Plague-infected rats.....		109	13	3	1		1
New Caledonia.....	C	2					6

¹ Includes 4 suspected cases.

² Plague has been reported in China as follows: Chekiang Province, Apr. 1-10, 1942, 4 cases; Fukien Province, Jan. 1-Apr. 5, 1942, plague appeared in 11 localities; Hunan Province, week ended Apr. 18, 1942, 2 cases; Suiyuan Province, pneumonic plague appeared in epidemic form during the period Jan. 1-Apr. 4, 1942, in the northwestern area.

³ At Jaffa and vicinity.

⁴ For the year 1942, 1 death from plague was reported in Chimborazo Province.

⁵ Pneumonic.

SMALLPOX

[C indicates cases]

Place	January- November 1942	Decem- ber 1942	January 1943—week ended—				
			2	9	16	23	30
AFRICA							
Algeria.....	C	814					
Angola.....	C	42					
Belgian Congo.....	C	635	79	16	8	1	
British East Africa: Tanganyika.....	C	60	24				
Dahomey.....	C	56					
French Guinea.....	C	134					
Gold Coast.....	C	1,385	6	1	1		
Ivory Coast.....	C	71					
Morocco.....	C	1,548	4	2	1	7	1
Nigeria.....	C	2,269	264	67	104	123	
Niger Territory.....	C	986					2
Portuguese East Africa.....	C	51					
Rhodesia:							
Northern.....	C	9					
Southern.....	C	1					
Senegal.....	C	17					
Sierra Leone.....	C	1					
Sudan (French).....	C	296					
Tunisia.....	C	1					
Union of South Africa.....	C	1,066					
Zanzibar.....	C	12					
ASIA							
Ceylon.....	C	7					
China.....	C	9					
India.....	C	29,792	417	214			
Indochina (French).....	C	3,516	71				
Iran.....	C	121	14				
Iraq.....	C	296	11	2			
Palestine.....	C	4	5		1	1	
Syria and Lebanon.....	C	1,633	350	80	61		
Trans-Jordan.....	C	3					
EUROPE							
France:							
Seine Department.....	C	44					
Unoccupied zone.....	C	13					
Great Britain:							
England and Wales.....	C	5	1				
Scotland.....	C	80	9	1			
Ireland (Northern).....	C	1					
Portugal.....	C	53	3		1	1	
Spain.....	C	211					
Turkey.....	C	849	992		252		
NORTH AMERICA							
Canada.....	C	5					1
Guatemala.....	C	7					
Mexico.....	C	112			1	2	
Panama Canal Zone.....	C	1					
SOUTH AMERICA							
Argentina.....	C	174					
Brazil.....	C	1	2	1			
Colombia.....	C	528					
Ecuador.....	C	4	2		1		
Peru.....	C	1,151	1				
Venezuela (alastrim).....	C	157					

¹ Imported.² In the Canal Zone.³ For the week ended Nov. 23.

TYPHUS FEVER

[C indicates cases]

Place	January- November 1942	Decem- ber 1942	January 1943—week ended—				
			2	9	16	23	30
AFRICA							
Algeria.....	C 35, 205						
Basutoland.....	C 34						
Belgian Congo.....				1			
British East Africa: Kenya.....	C 20	3			1		
Egypt.....	C 22, 975	570	396	418	446		
Gold Coast.....				1			
Ivory Coast.....	C 4						
Morocco.....	C 25, 813	14	8	6	8	22	23
Nigeria.....	C 5						
Niger Territory.....	C 1						
Rhodesia (Northern).....	C 11						
Senegal.....	C 3						
Sierra Leone.....	C 7						
Tunisia.....	C 16, 295						
Union of South Africa.....	C 936						
ASIA							
China.....	C 369						
India.....	C 7						
Indochina.....	C 11						
Iran.....	C 900	2					
Iraq.....	C 100	5	1	4			
Palestine.....	C 186	20	2		10	1	
Syria and Lebanon.....	C 24	3		2			
Trans-Jordan.....	C 8						
EUROPE							
Bulgaria.....	C 652	10			99		
Czechoslovakia.....	C 17						
France:							
Seine Department.....	C 1						
Unoccupied zone.....	C 229						
Germany.....	C 1, 817						
Hungary.....	C 773	47		13	13	20	
Irish Free State.....	C 28	1					
Portugal.....	C 1						
Rumania.....	C 3, 629	363					
Slovakia.....	C 2	4		15	12		
Spain.....	C 3, 870					8	
Canary Islands.....	C 1						
Switzerland.....	C 3						
Turkey.....	C 386	41			53		
Union of Soviet Socialist Republics.....	C 67						
NORTH AMERICA							
Guatemala.....	C 229	22					
Jamaica.....	C 50	3			2		
Mexico.....	C 870	108				91	
Panama Canal Zone.....	C 1						
Puerto Rico.....	C 4						
SOUTH AMERICA							
Chile.....	C 107	10	2				
Colombia.....	C 4						
Ecuador.....	C 158	11	4	5	5	6	11
Peru.....	C 923						
Venezuela.....	C 20						
OCEANIA							
Australia.....	C 34	4					
Hawaii Territory.....	C 44	5	1	1			

1 Suspected.

2 For 3 weeks.

YELLOW FEVER

[C indicates cases; D, deaths]

Place	January- Novem- ber 1942	Decem- ber 1942	January 1943—week ended—							
			2	9	16	23	30			
AFRICA										
Belgian Congo: Libenge.....	D	¹ 1	1	—	—	—	—	—	—	
British East Africa: Kenya.....	C	1	—	—	—	—	—	—	—	
French West Africa.....	C	1	—	—	—	—	—	—	—	
Gold Coast.....	C	² 3	—	—	—	—	—	—	—	
Ivory Coast.....	C	² 7	—	—	—	—	—	—	—	
Nigeria.....	C	³ 3	—	¹ 1	—	—	—	—	—	
Senegal ⁴	D	1	—	—	—	—	—	—	—	
Sierra Leone: Freetown.....	C	2	—	—	—	—	—	—	—	
Sudan (French).....	D	³ 2	—	—	—	—	—	—	—	
Togo.....	C	2	—	—	—	—	—	—	—	
SOUTH AMERICA										
Bolivia:										
Chuquisaca Department.....	D	1	—	—	—	—	—	—	—	
La Paz Department.....	C	7	—	—	—	—	—	—	—	
Santa Cruz Department.....	C	18	—	—	—	—	—	—	—	
Brazil:										
Acre Territory.....	D	4	—	—	—	—	—	—	—	
Bahia State.....	D	1	—	—	—	—	—	—	—	
Para State.....	D	1	—	—	—	—	—	—	—	
Colombia:										
Boyaca Department.....	D	5	—	—	—	—	—	—	—	
Cundinamarca Department.....	D	4	—	—	—	—	—	—	—	
Intendencia of Meta.....	D	5	—	—	—	—	—	—	—	
Santander Department.....	D	4	—	—	—	—	—	—	—	
Venezuela: Bolivar State.....	C	2	—	—	—	—	—	—	—	

¹ Suspected.² Includes 2 suspected cases.³ Includes 1 suspected case.⁴ According to information dated Feb. 9, 1942, 15 deaths from yellow fever among Europeans have occurred in Senegal.

COURT DECISIONS ON PUBLIC HEALTH

Typhoid fever—workmen's compensation act—held to arise out of employment.—(Illinois Supreme Court; *Permanent Const. Co. v. Industrial Commission et al.* (2 cases), 43 N.E.2d 557; decided June 11, 1942, as modified on denial of rehearing September 15, 1942.) In two cases before the Supreme Court of Illinois the question involved was whether typhoid fever, contracted by two employees of a construction company, arose out of their employment within the meaning of the State workmen's compensation act. The employees concerned worked for the construction company on the grounds of a State hospital. The only drinking water available on the grounds was from a waterworks system maintained by the State for use by those living upon and who came upon the grounds. As a result of contamination in the general water supply a typhoid epidemic occurred at the institution and about 455 persons, including inmates and others, contracted the disease. The employees in the instant cases contracted the disease from drinking the water, which was taken from the hydrants and conveyed to the employees in buckets by a water boy. The arbitrator and the State industrial commission found that these employees, by drinking the water containing typhoid bacilli furnished them by the construction company, suffered accidental injuries in the course of their employment. That finding was not contested but the question was whether the accidental injury to each employee arose out of the employment.

The supreme court said that it had in a number of cases announced the rule to be that an injury arose out of the employment when there was apparent to the rational mind, upon consideration of all the circumstances, a causal connection between the conditions under which the work was required to be performed and the resulting injury. Under this test, the injury, if it could be seen to have followed as a natural incident to the work and as a result of the exposure occasioned by the nature of the employment, arose out of the employment. The court stated its belief that the reasonable rule applicable to the cases before it was that the injury was one arising out of the employment, although unexpected and unusual, if the employees by reason of their employment were exposed to an intensified or greater risk of contracting typhoid fever than the risk to which the public in that vicinity was exposed, or if their employment necessarily accentuated the general hazard of contracting the disease, which increased hazard contributed to the injury. It could not be denied, said the court, that all who drank water on the hospital grounds were liable to contract typhoid fever and that, unless it could be said that the employees were subjected to a greater risk of contracting the disease because of their employment than was the public generally,

the disease suffered by the employees could not be said to have arisen out of their employment. On the other hand, if the company's act in furnishing to its employees water which contained typhoid bacilli could fairly be said to have increased or intensified, with respect to the employees, the risks to which the public was subjected so as to expose such employees to an extraordinary or peculiar danger to which the public generally was not equally exposed, the disease arising from drinking such water was an accidental injury arising out of the employment. By transferring the water from the mains of the hospital water system to buckets and carrying it to its employees, the company, according to the court, "must be said to have furnished the water in connection with its employees' work. * * * By furnishing drinking water to its employees plaintiff in error put itself in the same position it would have occupied had it furnished the water from its own wells. * * * When plaintiff in error elected to furnish water to its employees, it was incumbent on it to furnish water free from contamination. Under these facts the risk to its employees became a special hazard." The court's conclusion was that the employees in drinking typhoid-bacilli-contaminated water during the hours of their employment, furnished them by their employer, received accidental injuries which arose out of and in the course of the employment.

Filled milk law—held valid—proof as to whether product comes within statute's prohibition.—(Florida Supreme Court; *Setzer et al. v. Mayo, Com'r of Agriculture*, 9 So.2d 280; decided January 27, 1942, rehearing denied April 3, 1942.) A Florida statute defined and prohibited the manufacture, possession, or sale of "filled milk." Filled milk was defined as any milk, cream, or skimmed milk to which had been added, or which had been blended or compounded with, any fat or oil other than milk fat, but did not include any milk or cream from which no part of the milk fat or butterfat had been extracted and to which had been added any substance rich in vitamins. Also excluded from the definition was any distinctive proprietary food compound not readily mistaken for milk or cream and meeting certain specified requirements. The use of chocolate as a flavor was also permitted.

In a suit, which was instituted in the trial court by the commissioner of agriculture, the Supreme Court of Florida had before it for decision the constitutional validity of the act and the remanding of the case to allow evidence to determine whether a certain product was condemned by the act. The defendants admitted that the product in question as such was condemned by the act but contended that the product did not come within the meaning of the prohibition. The appellate court was of the view that the statute was valid but stated

that, while upholding the validity of the act, it was conscious of the rule that a valid statute could be assailed by proof of facts showing that as applied to a particular article it was without support in reason because the article, although within the proscribed class, was so different from others in the same class as to be without the reason for the prohibition, the effect of the proof depending on the circumstances of the case. The court said that its opinion was planted squarely on the doctrine of two named cases and that, as it interpreted those cases, it was not sufficient to prove that cottonseed oil and other substitutes for butterfat were wholesome and nutritious. If it is shown, said the court, that in addition to being wholesome and nutritious they are rich in vitamins that are equal to or superior to those found in butterfat and will perform the same function as food elements, they should be classed in the same category and not banned by the statute. "If therefore relators can show that notwithstanding their product is produced by substituting cottonseed oil or some other substitute for butterfat and vitamins it is wholesome and nutritious and that it is equal to or superior to whole milk as a food, the test prescribed in the last two cited cases is met and their product relieved from condemnation by the Act."

Garbage removal—held to be governmental function.—(Georgia Court of Appeals, Division No. 2; *City of Brunswick v. Volpian*, 21 S.E.2d 442; decided July 16, 1942.) In an action for damages brought against a city for the death of a person, it was alleged that such death was caused by a city truck backing on a sidewalk without warning and that the truck was being operated at the time by an employee of the city in the collection of garbage. The Court of Appeals of Georgia held that the removal of garbage was a governmental function and that, as the truck, even though negligently backed on the sidewalk, was actually performing a governmental function at the time of the accident, it followed that the plaintiff's petition did not set out a cause of action showing the city liable for the death.